

### **REMARKS**

Applicants thank the Examiner for the thorough consideration given the present application.

Claims 1 and 5-10 are now present in this application. Claims 1, 6 and 8 are independent.

Claims 2-4 have been canceled, claims 5-10 have been added, and claim 1 has been amended. Reconsideration of this application, as amended, is respectfully requested.

### **Priority Under 35 U.S.C. § 119**

Applicants thank the Examiner for acknowledging Applicants' claim for foreign priority under 35 U.S.C. § 119, and receipt of the certified priority document.

### **Information Disclosure Citation**

Applicants thank the Examiner for considering the references supplied with the Information Disclosure Statements filed 31 January 2006 and 13 April 2006, and for providing Applicants with initialed copies of the PTO-SB08 forms filed therewith.

### **Rejection Under 35 U.S.C. § 102 and § 103**

Claims 1, 2 and 4 stand rejected under 35 U.S.C. § 102 as being anticipated by Japanese 54-85404 (Norio et al.). Further, claim 3 stands rejected under 35 U.S.C. § 103 as being obvious over Norio et al. in view of Japanese 58-284468 (JP '468). These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that independent claim 1 has been amended to recite a combination of elements in a stator including a cylinder whose both end faces are respectively closed by a pair of frames. A movable member has a magnetic body, in which flange sections are formed at both axial ends and outer circumferential faces of the flange sections act as magnetic flux working surfaces. The movable member is accommodated in the cylinder and capable of reciprocally moving in the axial direction thereof. Pump chambers are

respectively formed between inner faces of the frames and both side faces of the movable member extended in the moving direction thereof. Air-core electromagnetic coils are wound in opposite directions and fitted around periphery of the cylinder. Yokes made of a magnetic material are provided to end faces of the electromagnetic coils to face the flange sections of the movable body. An outer yoke encloses outer faces of the yokes and a spacer made of a nonmagnetic material or an air space is provided between adjacent yokes. The movable member is reciprocally moved according to magnitude relation between magnetic attraction forces which work to the movable member and are generated by magnetic circuits formed between the flange sections and the adjacent yokes and between the flange sections, the end yoke, the outer yoke and the adjacent yokes when an electric current is supplied to the electromagnetic coils. Applicants respectfully submit that this combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Norio et al.

Norio et al. disclose E-type yokes and there is no disclosure or suggestion of an air space or spacer between the yokes. The moveable member 3 is moved according to the magnitude of magnetic attraction force generated by a magnetic circuit formed between the moveable member and end yokes.

While JP'248 discloses a center yoke 1a having a space 1b, the moveable member has no magnetic pole pieces facing the center yoke. The magnetic circuit is formed between magnetic pole pieces 5 and an end yoke 1c extending from an inner face of coil 2.

The claimed invention uses magnetic force in a magnetic circuit between the flange section and both end yokes and center yokes, a feature not disclosed in the prior art.

Applicants respectfully submit that the combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Norio et al., for the reasons explained above. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

With regard to dependent claim 5, Applicants submit that claim 5 depends from independent claim 1 which is allowable for the reasons set forth above, and for the additional recitations therein. Reconsideration and allowance thereof are respectfully requested.

### **New Claims**

Claims 5-10 have been added for the Examiner's consideration. Applicants submit that claim 5 depends from independent claim 1, and is therefore allowable based on its dependence from claim 1 which is believed to be allowable. In addition, claim 5 recites further limitations which are not disclosed or made obvious by the applied prior art references.

Independent claim 6 recites a combination of elements in a stator including a cylinder whose both end faces are respectively closed by a pair of frames. A movable member having a magnetic body, in which flange sections are formed at both axial ends and outer circumferential faces of the flange sections act as magnetic flux working surfaces, the movable member being accommodated in the cylinder and capable of reciprocally moving in the axial direction thereof. Pump chambers are formed between inner faces of the frames and both side faces of the movable member extended in the moving direction thereof and electromagnetic coils are wound in opposite directions and fitted around the periphery of the cylinder and yokes made of a magnetic material provided to end faces of the electromagnetic coils to face the flange sections of the movable body.

Applicant respectfully submits that this combination of elements as set forth in independent claim 6 is not disclosed or made obvious by the prior art of record. No prior art of record discloses flange sections formed at both axial ends of a movable body and outer circumferential faces of the flange sections acting as magnetic flux working surfaces.

Independent claim 8 recites a combination of elements in a stator including a cylinder whose both end faces are respectively closed by a pair of frames, a movable member having a magnetic body, said movable member being accommodated in said cylinder and capable of reciprocally moving in the axial direction thereof. Pump chambers are formed between inner faces of the frames and both side faces of the movable member extended in the moving direction thereof; and electromagnetic coils which are wound in opposite directions being fitted around periphery of said cylinder. Yokes made of a magnetic material provided to end faces of the electromagnetic coils to face the flange sections of the movable body, the yokes each comprise an outer yoke, a pair of end yokes depending from the outer yoke and a pair of adjacent yokes depending from the outer yoke and located between the end yokes.

Applicant respectfully submits that this combination of elements as set forth in independent claim 8 is not disclosed or made obvious by the prior art of record. No prior art of record discloses yokes made of a magnetic material provided to end faces of the electromagnetic coils, the yokes comprise an outer yoke, a pair of end yokes depending from the outer yoke and a pair of adjacent yokes depending from the outer yoke and located between the end yokes.

Applicants submit that claim 7 depends from independent claim 6, and claims 9 and 10 depend from independent claim 8 and are therefore allowable based on their dependence from claims 6 and 8 which are believed to be allowable. In addition, claims 7, 9 and 10 recite further limitations which are not disclosed or made obvious by the applied prior art references.

Consideration and allowance of claims 5-10 are respectfully requested.

### **Conclusion**

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Chris McDonald, Registration No. 41,533, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

Application No. 10/566,469  
Amendment dated November 21, 2008  
Reply to Office Action of September 3, 2008

Docket No.: 0038-0486PUS1

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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